(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 26 May 2005 (26.05.2005)

PCT

(10) International Publication Number WO 2005/047696 A1

(51) International Patent Classification7: B01L 3/00

F04B 19/00,

(21) International Application Number:

PCT/IB2004/052355

(22) International Filing Date:

9 November 2004 (09.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03104229.4

17 November 2003 (17.11.2003)

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): DECRE, Michel, M., J. [BE/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DURIEZ, Thomas, P., C. [FR/FR]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). KUIPER, Stein [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agents: COHEN, Julius, S. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

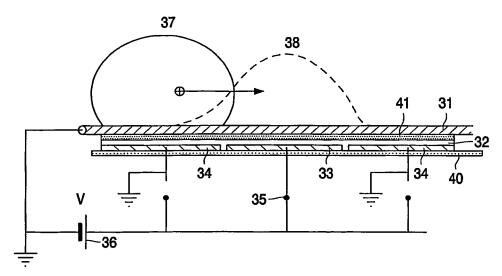
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM FOR MANIPULATION OF A BODY OF FLUID



(57) Abstract: A system for manipulation of a body of fluid, in particular a fluid droplet comprises severalcontrol electrodes to which an adjustable voltage is applied to control displacement of the droplet on the basis of the electrowetting effect. There is a counter electrode having a fixed voltage between the body of fluid and one of the control electrodes. Further, as the counter electrode and the control electrodes are located at the same side of the fluid droplet, the fluid droplet is freely accessible at its side remote from the counter electrode and the control electrodes. Hence, the fluid droplet can be employed as an object carrier and a pay-load can be placed on the droplet from the freely accessible side.